Chinese secondary cities as the pathfinder towards mega-regional economic upgrading

Abstract

The Chinese regional development pattern, prioritizing growth poles, brought great wealth in the 1990s during the wave of globalization, marketization, and decentralization of the national economy, but at the cost of massive inter-regional unevenness. Such unevenness has been perceived as a threat by authorities over the past three decades. Therefore, the cultivation of new "growth poles" in underdeveloped regions has been recognized as a competitive way to address the problem. With the rise of an increasing number of regional core cities under policy preferences and prioritized development plans, another issue has begun to emerge as a bottleneck to sustainable regional growth: intra-regional unevenness. Namely, there is a growing development gap between the regional core cities and the smaller neighboring secondary cities. This not only puts overwhelming economic, social, and environmental pressure on the core cities, but also exposes these smaller players to urban shrinkage and industrial decline. Faced with such challenges, mega-regions have been promoted by the authorities as a panacea for rebalancing the regional development system. It is an emerging spatial concept for strengthening regional connections and fostering inter-city cooperation through re-centralized governance. Over the past decade, the central government has approved plans for 19 mega-regions. By interpreting the planning documents and the history of mega-regionalization, this paper aims to understand the position and expectations of secondary cities, which have not been thoroughly noticed and studied, in mega-regionalization. We find that economic upgrading is a requirement for secondary cities in the emerging mega-regional system and a gateway of opportunity for these cities to better integrate and benefit from the mega-regional system. The planning expectations for economic upgrading of secondary cities have three levels, including the optimization of traditional heavy industries, the introduction of emerging high-end economic clusters, and the development of locally specific economic sectors. This is aimed at enhancing the quality of the overall industry and economy of the region on one hand, and the formation of virtuous partnerships between the cities within the region towards a diversified and complementary economic structure on the other hand. However, we also observe that underlying this planning vision, the winding path to economic upgrading brings more challenges to most of secondary cities.

Keywords

Intra-regional unevenness, Chinese mega-regionalization, secondary cities, economic upgrading, planning vision, realistic challenges

1 The growing intra-regional disparities between cities

1.1 Growth poles and regional unevenness in China

National economic growth, growth poles, and inter-regional unevenness

The remarkable economic growth in China has come at the cost of severe regional unevenness (Li & Fang, 2014; Liao & Wei, 2012; Wei, 2002). Struggling with limited national productivity for decades, China started putting all its efforts into economic progress without considering the development quality since 1978 (Chen et al., 1992; Dollar, 2007), the reform and opening up era. This was when the national authorities replaced the development ideology of equilibrium at the beginning of PR-China's foundation in 1949 with "efficiency first", indicating that economic growth was the most crucial task for the country. At that time, some coastal cities were encouraged to embrace the global market and received political support to attract foreign investment (Li & Wei, 2010; Nadin & Stead, 2008; Wei, 1999). Shenzhen is a well-known example of the growth pole approach to drive the national economy (Wu, 2003). Such a development mode contributed to the country's comprehensive economic strength and pioneering "growth poles" were expected to act as national economic engines to drive the development of latecomers (Ke & Feser, 2010; Wei, 1999).

This development path was gradually reinforced. The 1990s witnessed the expansion of Chinese marketization, the decentralization of the national economy, and the wave of globalization that swept through the traditional Chinese economic system (Liao & Wei, 2015). These three processes are widely considered fundamental contributors to China's rapid economic development but also the culprit factors of China's regional unevenness(He, 2006; Liao & Wei, 2015): the vast development gap among different geographical parts of the region (Figure 1.1). This is because the guiding ideology of efficiency-first focused excessively on national economic growth poles in the eastern coastal areas as they owned better endowments for global trading (Henderson et al., 2013; Wei, 2001). Other regions, especially in western China, have been lagging behind since then in terms of not only economic strength, but social vitality, and cultural prosperity as well (Li & Wei, 2010b; Wei et al., 2011).

Figure 1.1. Regional unevenness driven by economic opening policies (AMRO, 2019)

Fighting regional unevenness: The continuation of regional growth poles

Although scholars argued for the successful reduction of Chinese regional unevenness through various national strategies related to economic support (Shih, 2004), poverty alleviation (Xiao et al., 2022), and infrastructural investment (Shiu et al., 2016), the development gap between regions and cities remains a bottleneck that limits the further progress of contemporary China (He et al., 2017). In 2017, the development contradictions conceptualized by the Chinese central government were updated, signaling the country would no longer be concerned solely with rapid economic growth but determined to work on the problem of "unevenness" (CNDRC, 2021). In the face of such complicated issues, the role of growth poles in China is still highly valued. This is evidenced by the Chinese government's desire to create "superstar cities" as new growth poles in some left-behind regions. The *National Metropolitan System Planning* (Ministry of Construction, 2007) first designated five national central cities: Beijing, Tianjin, Shanghai, Guangzhou, and Chongqing (Figure 1.2). These national central cities are expected to take responsibility for addressing regional unevenness issues. First, they can serve as regional growth poles to support the development of neighboring cities. Second, they can serve as national growth poles to integrate into the globalized economy and demonstrate the country's growing competitiveness to attract more wealth (Ministry of Construction, 2007). In the following years, Chengdu, Zhengzhou, Xi'an, and Wuhan were added to the national central cities list to support coordinated development between more regions (Xu, 2022). In line with the central government's desire to develop "superstar cities", growth poles are also an important instrument at the provincial level. For some relatively well-developed provinces, supporting the capital to be selected as the "tenth national central city" has even become a political competition. For example, Changsha, the capital city of Hunan province, has explicitly proposed such a development goal in the provincial plan(DNR Hunan, 2021). On the other hand, other underdeveloped provinces, such as provinces in northeastern China, want to maintain their economic quality and social attractiveness by strengthening provincial capitals as growth poles (Li et al., 2022).

1.2 Looking at the other side of the "growth pole": intra-regional unevenness

Inter-regional unevenness has been reducing significantly in recent years, at least as shown in the statistics (Hoshino, 2011; Niu & Yang, 2020; Liu et al., 2017). Scholars argue that the growth poles are playing a sufficient role in driving the overall progress of the lagging regions and re-balancing the national economic development (Xu, 2010). However, this "victory" of alleviating regional unevenness is only justifiable when we compare the overall conditions inter-regionally. That is because the development results mainly concentrate on regional "superstar cities" (He et al., 2018). For example, Chengdu, one of the national central cities of western China, has grown rapidly in recent years (Qin, 2015). As a result, the city achieved outstanding progress in its economic strength and social vitality, becoming one of the most competitive new great metropolises. However, the region led by Chengdu, Sichuan Province, still suffers from a severe intra-regional unevenness problem (Zhang, 2019). In 2021, the total GDP of Chengdu was approximately RMB 2 trillion yuan, seven times larger than the regional second-ranked city, Mianyang

(NBS, 2021). This is not an exceptional case, as many scholars have demonstrated growing development gaps between some regional core cities and other smaller cities (Cheong & Wu, 2012; He et al., 2017; Liu et al., 2017; Wei et al., 2017).

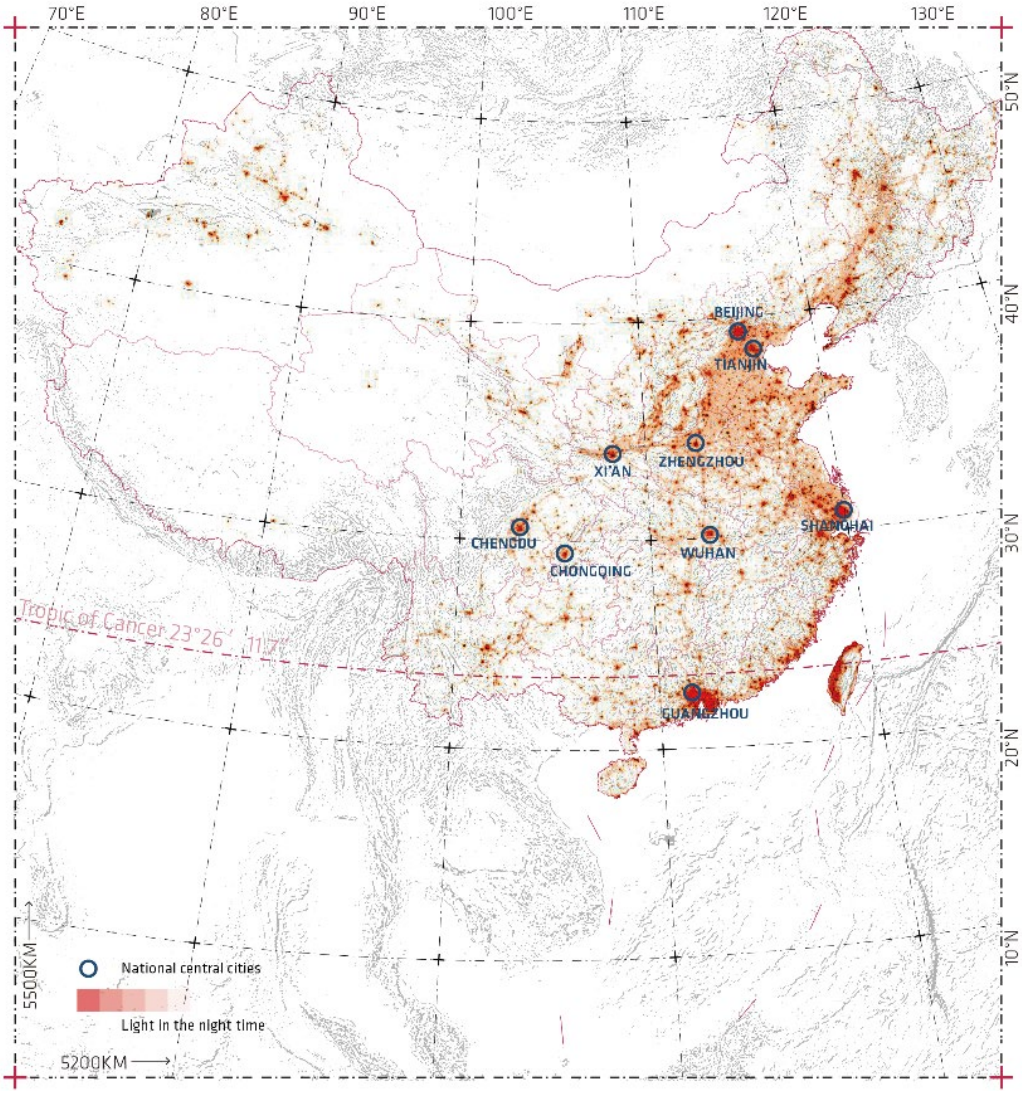


Figure 1.2. National central cities as growth poles in different Chinese geographical regions, source: the authors

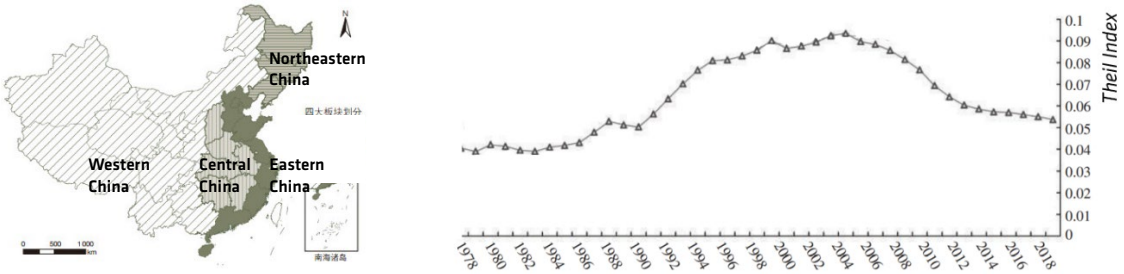


Figure 1.3. Alleviation of Chinese regional unevenness: Theil index analysis (Niu & Yang, 2020; Liu et al., 2017)
The Theil index is calculated based on the total GDP of four macro geographical regions, as shown on the left.

The "growth pole" pattern may therefore be more a fundamental tool for the further growth of core cities than an approach to support well-balanced regional development. *This has led to an aggravating unevenness between the regional core and other smaller cities, thus threatening regional sustainability.* On the one hand, the overcrowded regional core cities have been widely challenged by negative externalities. This includes increasing socio-economic pressure (Feng & Wang, 2021; Wen et al., 2014), low quality of life for citizens (Lee, 2000; Xing & Zhang, 2017), and environmental pollution (Fan & Qi, 2010; L. Zhu et al., 2019). On the other hand, the development of other smaller cities has been restricted because they do not have sufficient attractiveness and competitiveness (Deng et al., 2019; Jiang et al., 2022). The drivers of such aggravating intra-regional unevenness in China have also been discussed widely, and are summarized in three main aspects:

- *First, there are inherent disparities in the endowments of cities.* The core cities have benefited from their inherent endowments for centuries (Zhao et al., 2003; Sun & Shi, 2018). This includes the natural resource base, industrial capacity, urban environmental quality, urban density and diversity, and other agglomeration benefits (Rigby & Brown, 2015). These inherent disparities determine the inevitable result of development unevenness between cities (Fan & Wang, 2019).
- *Second, inter-city competition is stimulated by the market economy.* A competitive mindset trumps cooperation potential and leads to losing talent, investment, and industry in smaller cities (Wu, 2016; Wu & Zhang, 2008), further exacerbating the unevenness. The expected leadership of the cores and support for the development of smaller cities are difficult to achieve due to the continuous expansion ambitions of the cores (Tan et al., 2005; Wei et al., 2017; S. Zhao et al., 2015).
- *Third, there is a strong policy preference for regional core cities.* As mentioned above, the authorities emphasize regional core cities as the driving force of regional development (Ke & Feser, 2010). Therefore, they have access to more development opportunities, such as allocating profitable industries and constructing economic zones (Wang & Xu, 2012). At the regional level, core cities also become single development priorities. Especially in economically lagging regions, policymakers often want to develop their cores into highly competitive cities, nationally or even globally, to increase the attractiveness and visibility of the region (Lu & Deng, 2011; Ying, 2000; Zhang et al., 2021).

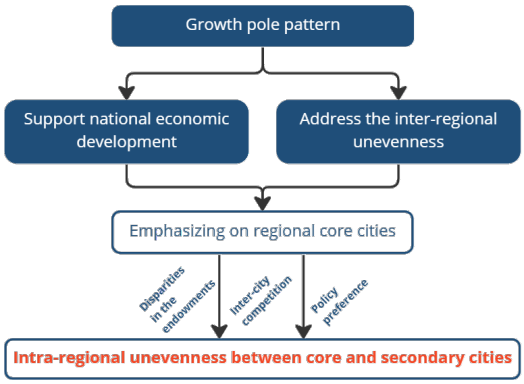


Figure 1.4. The causes of intra-regional unevenness, source: the authors

2 Secondary cities: the underestimated issue within regional unevenness

Catalyzed by the three problems mentioned above, the increasing gap between the regional core and the smaller cities has become a crucial barrier to sustainable regional development. *In this thesis, we identify these smaller cities that struggle to benefit from the Chinese regional system as "secondary cities".* These cities have nevertheless great potential to contribute to regional sustainability. First, secondary cities can absorb the population and industries relocating from the regional core cities and re-balance the development pressure on the latter while acquiring new development assets themselves (Chen et al., 2018; Li et al., 2019). Second, the secondary cities' social, industrial, cultural, and environmental features can significantly enhance the vitality and diversity of regional development (Guo et al., 2016; Wei et al., 2007). Third, Secondary cities are also envisioned as a fundamental platform for further urbanization in China. These small and medium-sized cities have a great capacity to provide employment, housing, entrepreneurial opportunities, and public services to the surrounding rural areas (Chen & Gao, 2011).
The aggravating unevenness between regional core and secondary cities has also drawn attention from the central government. The 14th Five-Year Plan (2021–2025) emphasizes the coordinated development of large, medium, and small cities by giving full play to the driving force of regional central cities toward a more balanced functional arrangement and spatial pattern (CNDRC, 2021). To this end, the central government attached high importance to national strategies such as improving the living environment quality (Zhang, 2017; Cheng et al., 2013), supporting industrial transformation (Jia, 2014), and enhancing the infrastructural connectivity of secondary cities (Yu & Wu, 2004).

2.1 Characteristics of secondary cities in the Chinese regional system

The increasingly intense socio-economic activities among cities make them more than isolated objects but rather important nodes in the regional system. In this thesis, the secondary city is also defined in relation to the regional context. In general, the secondary cities we will focus on have the following characteristics:

- *Secondary cities have an explicitly non-centric nature in the regional system.* These cities are not comparable to the regional core cities regarding socio-economic vitality, industrial competitiveness, and political influence. It is important to note that size (population and urban area) is not the only criterion to distinguish regional core and secondary cities since there are other important indicators contributing to urban centrality in different aspects (Jiang & Shen, 2010; Wang et al., 2021; Zhan et al., 2018), such as talent and innovation, environmental quality, or urban governance capability. In this thesis, we delimited regional core cities in China as the centrally-administered municipalities (4 cities), national central cities (9 cities), sub-provincial cities (15 cities), and provincial capitals (27 cities). Secondary cities are other cities that also significantly influence regional development but have a smaller weight in the regional system.

- *Secondary cities are not subordinate to, or under the jurisdiction of, the core cities.* They have their metropolitan structure and urban administrative system. Therefore, the new industrial towns, economic development zones, new urban functional areas, and satellite towns surrounding the core cities do not fit into this category. Administratively, they are a part of core cities. For example, in the Beijing-Tianjin-Hebei mega-region, some cities in Hebei province are defined as secondary cities in the region while Beijing is undoubtedly the regional core, but some new towns planned around the central area of Beijing are not the secondary cities we will discuss (Figure 2.2).

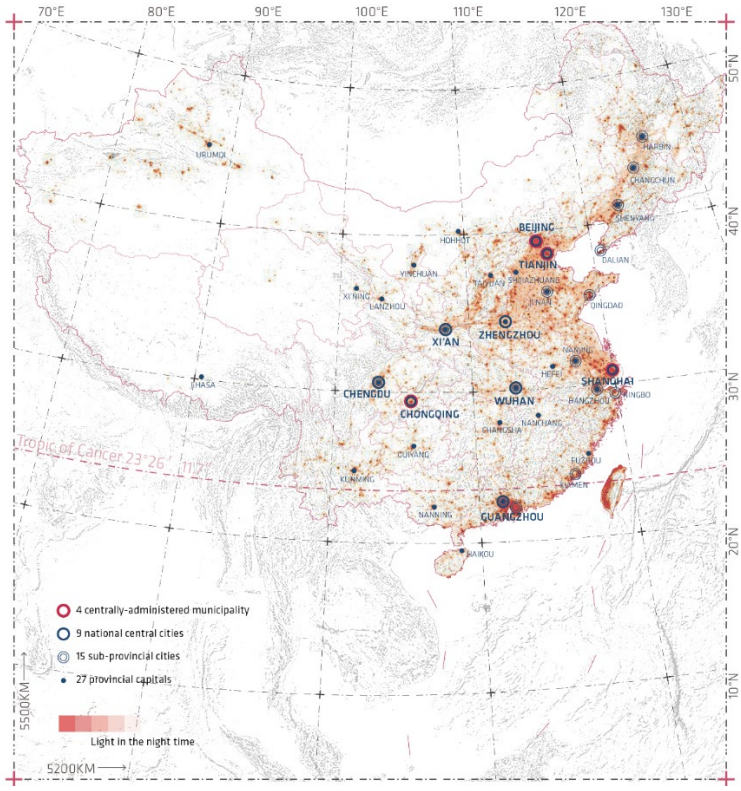
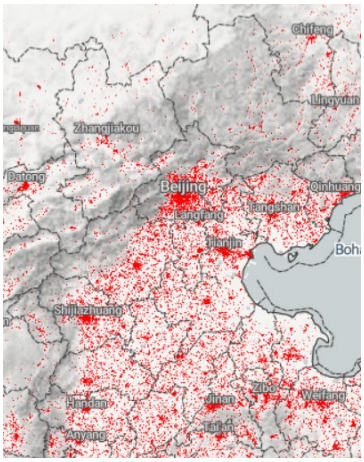


Figure 2.1. Regional core cities defined in this thesis, source: authors



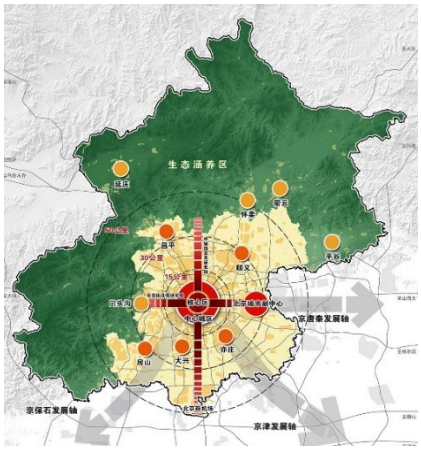


Figure 2.2. Left: the built-up area in Beijing-Tianjin-Hebei region, source: screenshot from https://lcviewer.vito.be/2019
Right: the metropolitan system of Beijing (Beijing MCPNR, 2018)

- *Secondary cities are closely interconnected with other cities in the regional system.* These connections are based on transport and communication infrastructures, which lead to a broader interaction among cities (Jiao et al., 2020; Wang et al., 2020; Zhu et al., 2019), including social, economic, and environmental aspects. Such an increasingly interconnected system brings opportunities for secondary cities since it builds up a foundation for knowledge flows, labor mobility, and industrial communication (Wang et al., 2022; Zheng et al., 2020). However, it also creates enormous challenges, such as the mono-directional flows from secondary cities to the core cities (Yang et al., 2015).

2.2 The scale of secondary cities in China

The 1982 city-led-county policy underpinned the structure of the current Chinese metropolitan system, both spatially and administratively (Wang & Yeh, 2020; Wu, 2016). Counties formerly under the provincial government's jurisdiction were adjusted to be part of prefecture-level cities (Figure 2.3). The spatial structure of most Chinese prefecture-level cities can be seen as urban regions: one prefectural core surrounded by a group of smaller cities (county centers) and towns (Zhang & Wu, 2006). When we discuss the intra-regional unevenness induced by growth pole development patterns, our comparison is with these prefecture-level cities rather than individual urban entities. This is because in the regional system, interactions among cities, including but not limited to the transfer of industries, joint governance of public affairs, and even infrastructure planning, usually unfold based on the prefecture-level city level (Sun et al., 2019). Most regional core cities also have a similar spatial structure but generally have a higher administrative level and thus acquire more political power. In such a context, Chinese cities are not entirely equivalent to urbanized areas but include their surrounding territory of the natural landscape, farming land, and rural areas. The different urban entities in the prefecture-level cities are also increasingly integrated as they are subordinated to the coordination of the higher levels of government (Chan, 2010; Dong & Kübler, 2015).

Secondary cities in China also generally have a larger size compared to Western standards. This makes the aggravating disparities between regional core and secondary cities a more problematic threat. An example is a prefecture-level city in Shandong Province, Linyi. Its population ranks in the top 10 in the country. According to the 2019 population data, 11.02 million people live in this city (including 2.47 million people in the core of the prefecture-level city and 4.95 million people in the rural area). However, the large population base does not change its position as a secondary city in the regional system. This is due to the stronger urban attractiveness and competitiveness of Jinan (9.20 million population), the capital city of Shandong Province, and Qingdao (10.07 million population), the regional economic core (NBS, 2019). In this context, Linyi still demonstrates the weaknesses of being a regional secondary city (Figure 2.4): lower economic competitiveness and declining social vitality (Xu, 2017).

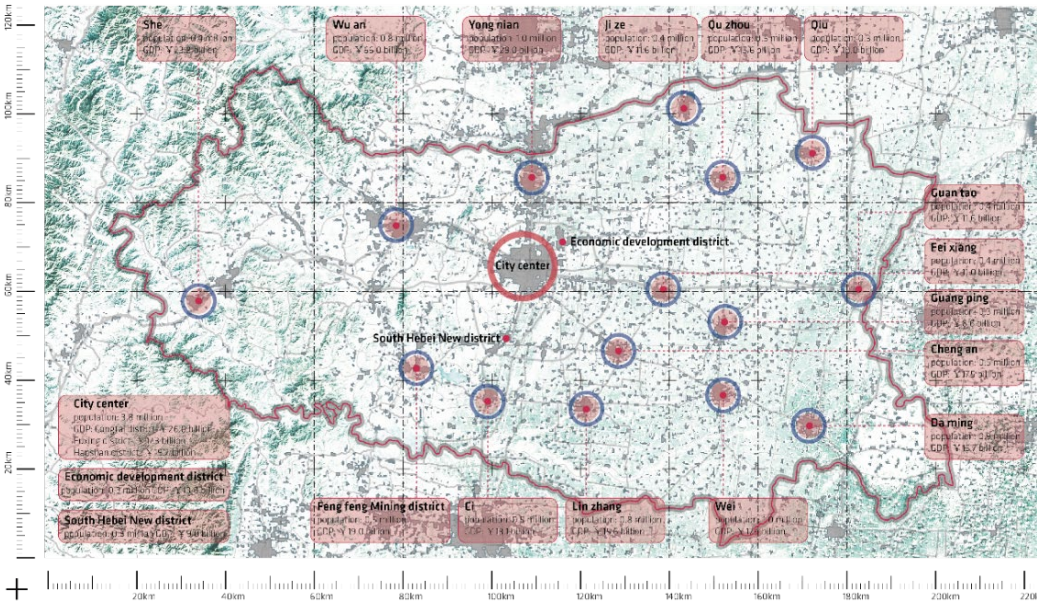


Figure 2.3. An example of the urban-region system of a prefecture-level cities city, HanDan in Hebei Province (Du, 2021)
The red circle is the prefectural core, the bule circle is the county central towns within this prefectural system.

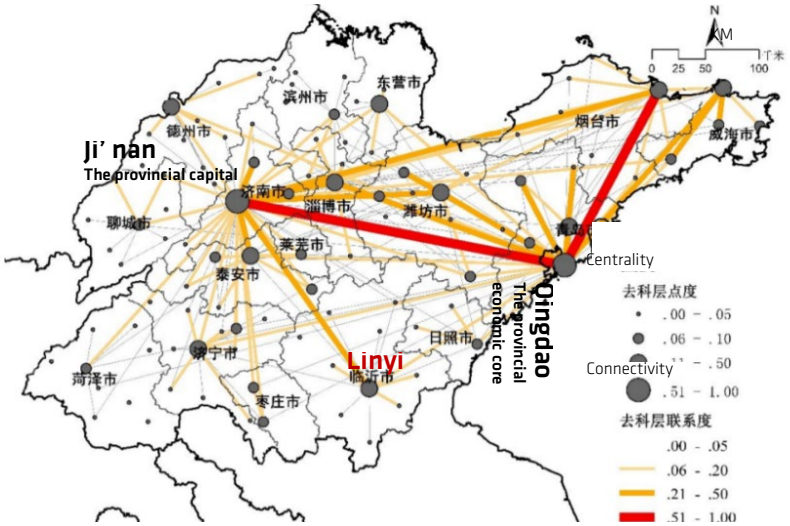


Figure 2.4. regional connectivity and centrality in Shandong province based on enterprise network. The data is collected in 2013, bureaucratic enterprises was excluded (Cheng & Wang, 2017)

Rank	City	Total Population of the prefectural city (million)	Prefectural core population (million)
~10	Linyi	11.02	2.47
~20	Handan	9.41	3.67
~50	Yantai	7.01	2.52
~100	Jiujiang	4.60	1.16
~150	Jiaozuo	3.52	1.09
~200	Baotou	2.72	2.05
~300	Tongchuan	0.70	0.58

Table 2.1. The population of secondary cities (prefecture-level city scale) and their approximate ranking nationwide. There are 333 prefecture-level administrative divisions in the country (NBS, 2019)

2.3 The perspectives of secondary cities: towards economic upgrading

The development potential of secondary cities is increasingly valued by national and regional governments. This is because, on the one hand, their diversity empowers them to develop various attractive economic sectors, thus contributing to the complementarity and vitality of the regional economic structure (Brandt & Thun, 2016; Cheong & Wu, 2014). On the other hand, emerging high-tech economic sectors, and transformative concepts such as the knowledge economy and the circular economy, provide opportunities for secondary cities to navigate the uneven regional system and gain more economic competitiveness (Song & Kim, 2022; Zhou et al., 2019). *We define this process of secondary city development within regions as economic upgrading.* For example, Guizhou province, a relatively lagging province, has benefited from the big-data-related industries development in the past years, which has also optimized the economic structure of the provincial secondary cities (Liu et al., 2018). Therefore, secondary cities attach much importance to economic upgrading as an essential gateway to breaking through their limitations. Moreover, the coordinated regional development policies also emphasize the promotion of economic upgrading in secondary cities (CNDRC, 2016, 2021).

Figure 2.5. China International Big Data Industry Expo has been held in Guizhou for eight consecutive years (2015-2022), source: http://www.cena.com.cn/ssxw/20211012/113468.html

Economic upgrading is also an essential requirement for sustainable regional development to achieve the goal of high-quality development, as initiated by the central government in the national transformation policies: promoting informatization of economic development, supporting resource-based industrial transformation, developing high-tech economic sectors, and optimizing the regional market system (CNDRC, 2021). This urgency originated from the rapid Chinese economic growth, which has come with the painful price of environmental degradation. The ideology of "efficiency first" has severely damaged the natural environment and ecology (Hou, 2011; Zhang, 2007). More importantly, the homogenization of industrial structures in different cities, stimulated by the market economy, has led to redundancy in urban industrial development and, consequently, to a declining socio-economic vitality and lack of economic competitiveness in secondary cities (Zhan & Naminse, 2020; Zhu & Xu, 2007; Chen, 2004).

Figure 2.6. Pollution of industrialization, source: https://zhuanlan.zhihu.com/p/133330752

We summarize the potential of secondary cities for economic upgrading into three aspects:

- *First, the optimization of traditional heavy industries*, including resource-based industries and labor-intensive manufacturing, which often impose a massive burden on the regional environment and ecology (Dong et al., 2007). Under the "efficiency-first" approach, such industries have become the economic pillars of many cities (Lin et al., 2004). In the last decade, their governance has been reinforced to speed up the optimization process (Chen et al., 2011; Li et al., 2021). The environmental friendliness of industries is an essential indicator supervised by higher levels of government (Cheng & Li, 2019). Based on this requirement, some resource-based factories have been shut down because of their inability to meet environmental standards (Liu et al., 2020; Dong et al., 2007).
- *Second, the introduction of emerging high-end economic clusters.* In order to enhance economic competitiveness, emerging high-end economic clusters have become an important backbone for the economic upgrading of cities. This includes financial, information technology, research and design, and other knowledge and high technology-based industries (Wang et al., 2020). This urges cities to improve their innovation capabilities. Moreover, it is facilitated by the closer regional network and the significant diffusion of knowledge, technology, and talents (Wang et al., 2022; Zheng et al., 2020).
- *Third, the development of locally specific economic sectors.* The economic vitality and diversification in secondary cities are valued since they contribute to a higher quality regional economic structure. To this end, there is a growing emphasis on local industries with a strong urban identity. This includes agricultural development, cultural industries, and tourism. In addition, the combination of these local industries with city branding provides more opportunities to revitalize traditional economic sectors in secondary cities (Ma et al., 2020), which were neglected during rapid urban development because they were not profitable enough compared to heavy industries.

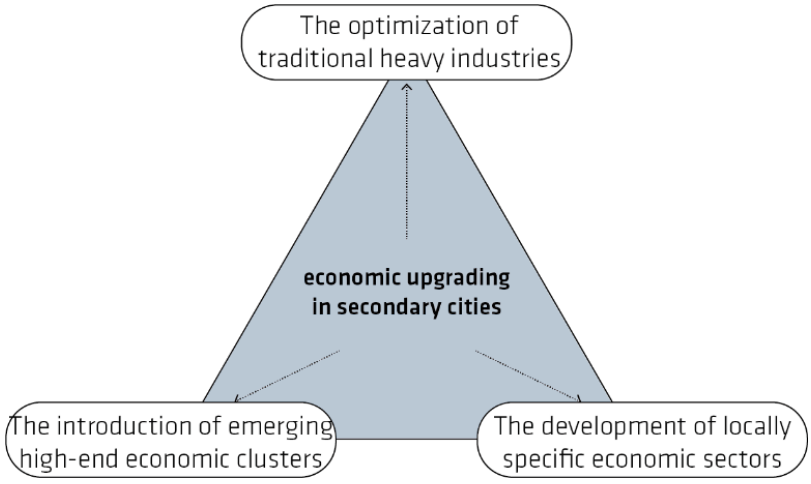


*Figure 2.7. Three aspects in the potential of secondary cities' economic upgrading, source: author*S

The central government aims to alleviate the rising intra-regional unevenness by coordinating regional development through centralized approaches. On the one hand, the support and assistance of large cities to secondary cities is emphasized for economic upgrading, and spillover effects are expected to play a significant role (Ying, 2000). On the other hand, the authorities have attempted to formulate policies limiting regional core cities' expansion while supporting the growth of secondary cities (Jaros, 2016). *However, empirical studies have demonstrated the increasing gap between both types of cities.*

- *Regarding population concentration,* people continue to agglomerate in regional core cities (Deng et al., 2021). In some smaller cities, the population starts to decline (Jiang et al., 2022), raising hidden social threats in secondary cities, such as labor shortages, excessive shrinkage, and social welfare problems.

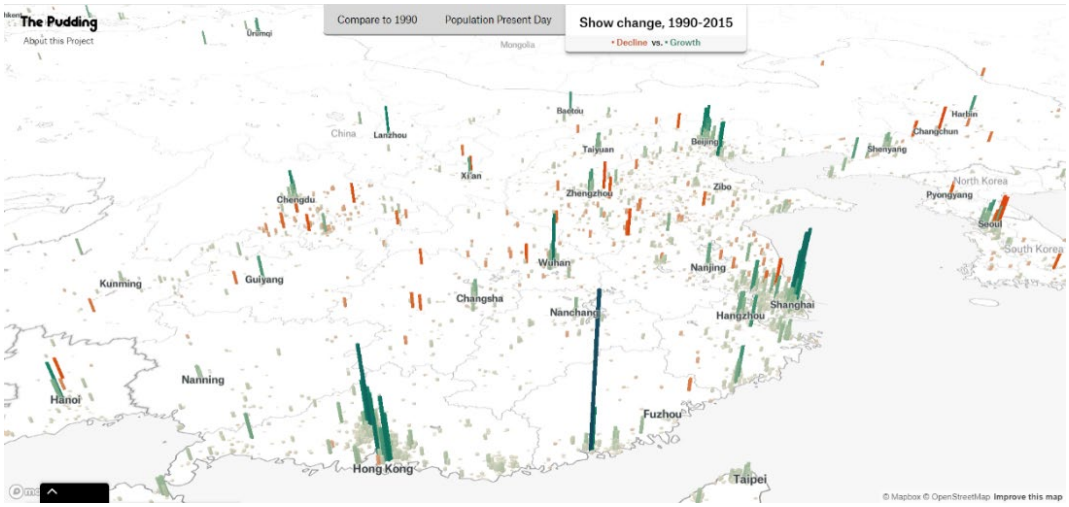


Figure 2.8. Regional secondary cities are declining in China, source: https://pudding.cool (Daniels, 2018)

- *Regarding urban expansion,* regional core cities did not contribute to the re-balancing of the regional system by limiting their expansion and relieving development pressure, giving secondary cities more

opportunities, as envisioned in the coordinated regional development planning (Deng et al., 2021). For example, in the Wuhan metropolitan area in Hubei province, the core city of Wuhan maintains the trend of rapid urban expansion compared to other secondary cities (Cheng, 2022; Zheng et al., 2020).

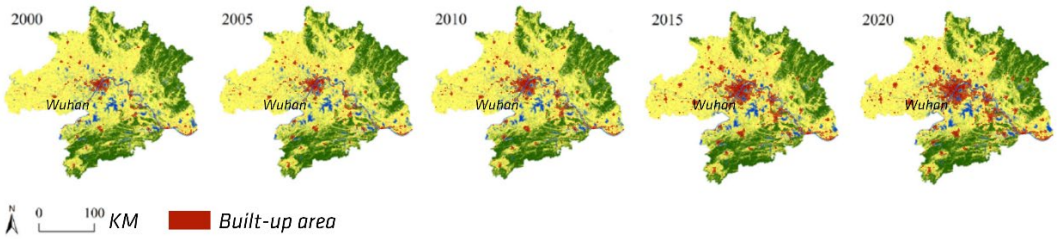


Figure 2.9. urban spatial expansion of regional central cities, Wuhan metropolitan area as an example (P. Cheng, 2022)

- *Finally, economic vitality* is decreasing in secondary cities due to the lack of economic competitiveness and industrial innovation capacity (Chen et al., 2020; Chen & Zhang, 2021; Lu & Huang, 2012). In comparison, emerging economic sectors and investments are more likely to be attracted to the regional core cities. In northeastern China, a process of re-centralization of the regional industrial development has occurred, such as in Liaoning province, where many cities in this area used to be the crucial industrial nodes of the national economic network (Yin, 2018). However, with the national industrial transformation, these cities are losing economic vitality as they abandon the traditional heavy industries.

Figure 2.10. industrial decline in northeastern China, Hegang as an example. The dark area in the southeast part is abandoned resource-based factories, source: screenshot from https://www.google.com/maps/

In summary, these trends lead to twinned processes of polarization and peripheralization faced by secondary cities as part of the regional system:

- On the one hand, the socio-economic resources, including talent, investment, and labor, are draining away from secondary cities. This polarization is exacerbated by an increasingly connected regional infrastructure;
- On the other hand, as engines of regional economic growth, there is often an excessive policy focus on core cities, which have simultaneously more opportunities for development and greater power in regional policy decisions. Such a preference for core cities brings a heavier burden of economic upgrading to secondary cities. For example, in the industrial re-location process, the core cities tend to transfer the high pollution and high energy consumption industries to the secondary cities (Zhao & Yin, 2011). Moreover, the regional sustainable transformation in environment and ecology conservation also imposes pressure on secondary cities (Song et al., 2022).

The two problems faced by regional secondary cities in the regional system are exacerbating each other, creating a vicious circle (figure 2.11). Polarization leads to the loss of development potential of these cities, resulting in further peripheralization due to the reduction of their political voice. Peripheralization imposes additional burdens on the secondary cities, weakening their competitiveness and attractiveness, and therefore aggravating polarization.

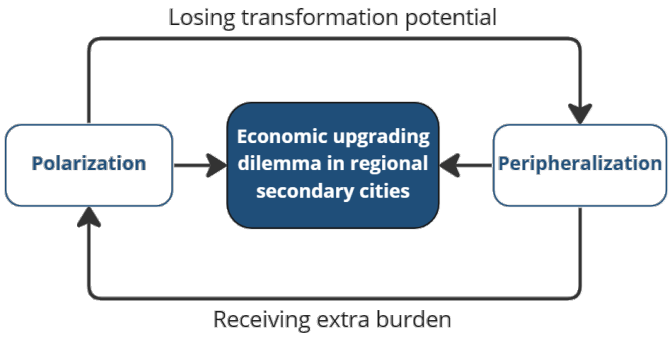


Figure 2.11. A vicious circle driven by polarization and peripheralization, source: authors

2.4 Defining the research lens: the spatial relations between core and secondary cities under the mega-regional system

To better promote the economic upgrading of secondary cities, the Chinese government developed the concept of the mega-region, a highly networked and integrated territorial unit benefiting from coordinated governance and able to drive national economic development by unlocking agglomeration economies at larger scales (Florida et al., 2008; Yeh & Chen, 2020). However, the experience of mega-regional systems in the last decade shows that they are not helping secondary cities, but rather exacerbating their problems of polarization of peripheralization, which we will explain in more detailly in the next chapter. To understand why this might be the case, it is important to note that within such networked and interdependent systems, *the relations between cities become very important and are key to the functioning of the mega-regionalization process* (Meijers, 2005). Namely, spatial relations are quite important, seen here as interactions between cities mediated by spatial mechanisms, either at functional, infrastructural or morphological levels, and governed by spatial planning frameworks.

Therefore, given the roles and dynamics of core and secondary cities in regional systems discussed so far, we suggest that looking at the spatial relations between these cities in mega-regionalization is a fundamental lens to understand the development challenges of secondary cities. Research so far has looked at overall planning and governance frameworks determining mega-regional development (Lu et al., 2020, 2020; Su et al., 2017; Wu, 2016; Ye, 2014), as well as at the endogenous features of secondary cities (Hong et al., 2020; Ren, 2011; Wu & Zhang, 2007), but studying core-secondary relations brings a new perspective and contributes to filling a research gap. In the next section, we will discuss in depth the concept of the mega-region and the economic upgrading challenges of secondary cities in that context. This will lead to a working hypothesis in which core-secondary spatial relations and their respective exacerbation of polarization and peripheralization are explained by three types of conflict between core and secondary cities.

Part A Reference

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